

# Amine Purification

Contamination Control Through  
Continuous Heat Stable Salt Removal



 **eco-tec**  
A Kovalus Company

# Effective Heat Stable Salt Removal

## Proven, Innovative and Unique Ion Exchange Experience

KOVALUS SEPARATION SOLUTIONS™ (KSS) is a global leader in innovative process separation technology. In addition to the world's largest membrane-based product portfolio, we have expanded to incorporate the proprietary ion exchange systems developed by Eco-Tec, a leader in water treatment and chemical recovery and purification.

Established in 1970 in Ontario, Canada, Eco-Tec engineers a range of ion exchange systems based around their proprietary Recoflo® fine mesh resins. Recoflo relies on a compressed shallow resin bed and short cycles of loading and counter-current regeneration for a smaller footprint and resin volume, lower costs, and longer resin lifetime.

## The Heat Stable Salt Problem

Amine is commonly used in oil refining and gas processing for the removal of hydrogen sulfide and/or carbon dioxide in order to meet product specifications, emissions standards, or other process requirements. During operation, contaminants such as heat stable salts (HSS), solid particulates, and hydrocarbons enter or are produced within the amine circuit resulting in process upsets that lead to higher maintenance costs and reduced performance and capacity.



## AmiPur-PLUS System

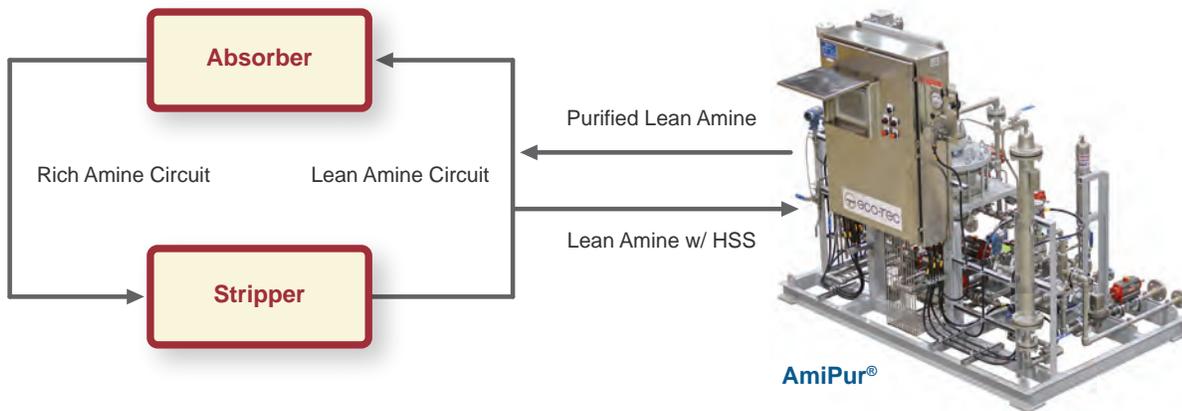
The AmiPur®-PLUS amine purification system is a compact, automated, skid-mounted equipment package that is integrated into the amine circuit to continuously remove HSS from the amine. The system features the proprietary, highly efficient Recoflo ion exchange process to facilitate the loading of heat stable salts onto the resin.

Available in a range of standard models, the AmiPur-PLUS system is designed to meet HSS removal capacity requirements for virtually any operation. The AmiPur-PLUS system uses continuous treatment instead of batch treatment to ensure low, stable HSS concentrations with predictable amine characteristics. The installation of the AmiPur-PLUS systems reduces equipment corrosion, cleanings of fouled equipment, amine filtration costs, and overall improves absorber economy and performance.

# Advanced Ion Exchange Technology for Increased Performance

## Amine Circuits Designed for Carbon Dioxide Removal

Amine is a leading technology for CO<sub>2</sub> removal in petrochemical and fertilizer plants and capture of CO<sub>2</sub> from flue gas generated in coal-fired power stations as part of the Carbon Capture and Storage (CCS) approach to the mitigation of global warming. The AmiPur®-CCS is adapted from the AmiPur-PLUS system to meet specific requirements of amine purification designed for CO<sub>2</sub> removal.



### Benefits

- Reduced equipment corrosion
- Improved absorber performance
- Reduced foaming
- Fewer amine purchases
- Consistently low HSS levels
- Lower operating costs

### Applications

- Refineries
- Petrochemical plants
- Natural gas processing plants
- Carbon capture
- Steel plants
- Cement plants
- Coal gasification
- Hydrogen plants



## KOVALUS SEPARATION SOLUTIONS

KOVALUS SEPARATION SOLUTIONS™ (KSS) is a global leader in separation technologies.

With best-in-class domain expertise, technologies and systems, KSS is uniquely positioned to help customers purify and recover valuable process streams and achieve sustainability goals across food and beverage, life science, and general industrial markets.

### Services & Support

After-Sales Services & Maintenance Programs • SepTrac™ Smart System



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